



# NIST 2010: Homeland Security

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# NIST role in Homeland Security

- Provide measurements, standards and technical advice to...
  - ◆ Federal, State and Local Governments
  - ◆ Private sectorrelevant to securing the U.S. from terrorist threats or attacks.
- Provide metrics, tools and guidance to help see homeland security measures in broader context.

# Why NIST?

- NIST is the nation's primary measurement laboratory.
- Ongoing NIST research related to sensing, measurement, performance prediction, and technology evaluation is a valuable national resource to bring to this urgent national need.
- NIST is not a technology developer, but supports those who do, in the private and public sectors, with essential measurement and performance assurance tools and infrastructure.
- NIST is uniquely suited to provide standards support and assistance to support DHS and other Agencies with Homeland Security responsibilities.
- NIST has long tradition of partnering with industry and other Agencies of Government at all levels to facilitate technological innovation.

# Legislative Mandates

- **USA Patriot Act of 2001** (Biometric ID systems)
- **Enhanced Border Security and Visa Reform Act of 2002** (actions needed to deploy systems to allow biometric comparison and authentication of documents)
- **Cyber Security Research and Development Act** (grants, checklists, Advisory Board, Research, NRC study)
- **National Construction Safety Team Act** (empowers NIST to investigate structural failures, including WTC investigation)

# NIST 2010 Strategic Focus: Homeland Security: Bottom Line, NIST is...

- 1. Producing** to meet Homeland Security Needs;
- 2. Aligning** with Strategic Focus on Homeland Security;
- 3. Pursuing** key role in National effort: Major provider of measurements and standards for...
  - ◆ Homeland Security Technologies,
  - ◆ Industry/other private and public sector bodies to make choices that strengthen economy, competitiveness, as well as security;

# 1. Producing to meet Homeland Security Needs: Selected NIST outputs and activities...

- Border and Transportation Security
- Emergency Preparedness and Response
- Science and Technology
- Information Analysis and Infrastructure Protection

# Border & Transportation Security

- Enhanced Border Security and Visa Reform Act of 2002 (biometrics)
- Concealed weapons detection
- Metal detector standards
- Production of tomographic images of luggage and cargo container contents using very high-energy x-ray beams



# Emergency Preparedness & Response

- World Trade Center building and fire safety investigation
- Gas mask performance standards
- First responder interoperable communications
- Performance metrics for urban search and rescue robots
- Standard references for bullets and casings forensics
- Sanitized government mail stream supported by NIST procedures, testing, and quality assurance
- Standards and test protocols for hand-held radiation detectors for 1st responders



# Science and Technology

- Guidance to OHS/DHS on standards development strategy
- CBRNE protective equipment guides
- Chemical sensing with microarrays

# Information Analysis & Infrastructure Protection

- Cyber security research and development
- National Information Assurance Partnership (NIAP)
- Program for Accelerating Critical Information Technologies (PACIT) embedded networks.
- Computer Security Expert Assist Team (CSEAT)

## 2. Aligning with Strategic Focus on Homeland Security (in process)

- Identify, know, listen to customer:
  - ◆ DHS, Other Homeland Security Agencies
  - ◆ NIST traditional customers on Industry, S&L Gov't
- Build on NIST strengths
- Focus on significant outputs & outcomes
- Assure that what we do & produce meets the needs

# NIST Strategic Opportunities

<u>SO</u>	<u>Defined as...</u>	<u>Key OUs...</u>
■ Cyber/CIP	Cyber and Critical (Information) Infrastructure Protection.	<b>ITL</b> , EEEL, PL
■ CBRNE	Chem., Bio., Rad., Nuclear, Explosives detection & technologies.	<b>PL</b> , CSTL, EEEL, OLES, TS
■ CPI	Critical Physical Infrastructure Protection.	<b>BFRL</b> , ITL, MEL, MSEL
■ S&I	Sensing and Intelligence.	<b>ITL</b> , EEEL, PL, (MEL)
■ TIR	Technologies for Incident Response.	<b>OLES</b> , <b>BFRL</b> , MEL, ITL, CSTL, TS
■ Biometrics	Biometrics in identification and security systems.	<b>ITL</b> , (CSTL), (BFRL), (MEL)

## Homeland Security: OU Involvement

Strategic Opportunity Areas

CBRNE

TIR

SI

CS&CIP

CPI

BIOMET

OTHER

NIST OA

Current FY02 Funding (\$M)

Total FY02 Funding:  
\$56M

HSSFA May '02

EEEL/OLES, CSTL, PL, MSEL

ITL, BFRL, MEL, EEEL/OLES

ITL, EEEL, PL

ITL, BFRL, EEEL, MEL, PL

BFRL, MEL, EEEL, MSEL

ITL, CSTL, EEEL/OLES

# Listening to the Customer:examples...

- WTC Investigation - Public Meeting in NYC, workshops with designers, owners, professionals,...
- WTC Response plan vetted with over 50 private and public sector groups.
- First Responders - Federal Agencies, IAFC, IAFF  
(International Associations of Fire Chiefs, and Fire Fighters)
- NRC Report, *National Security and Homeland Defense Challenges for Chemical Sciences in the 21st Century*
- CBRNE - CIRMS Oct. 21-23, 2002  
(Council on Ionizing Radiation Measurements and Standards)

# Focus on Outputs and Outcomes, and closing the loop: (in process)

- Cradle to grave connections with customer/users.
- Active participation in professional, standards activities.
- Testbeds, demonstrations, evaluations, presentations, workshops
- Customer feedback.



# What's Right about What is Going on Now?

- Many OU's are making significant contributions to the national effort.
- NIST is carrying out some \$68M of Homeland Security work.
- NIST is doing much more work that is related to H.S.
- Many of the ongoing efforts involve multiple OUs

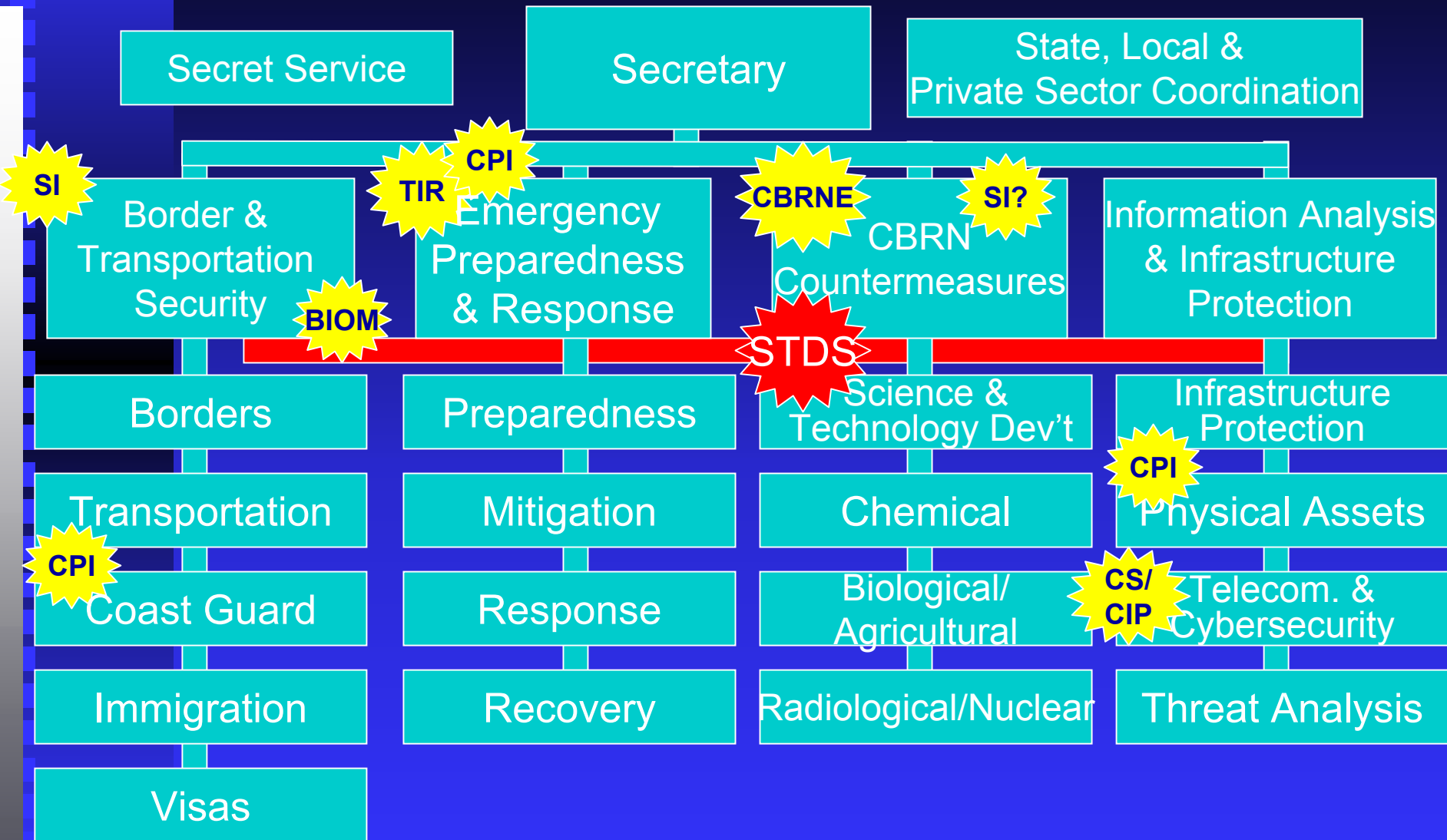
## What'd be Better? If...

- NIST had a seat at the table in DHS & Other H.S. Agencies.
- NIST had a single point of contact to work out an overarching role for NIST in support of DHS/H.S.
- Many of the ongoing efforts were orchestrated NIST-wide.
- NIST staff were aware of the opportunities that arise for NIST to respond/contribute.
- DHS/Other H.S. Officials were aware of all that NIST can do for them.

### 3. Pursuing key role in National effort

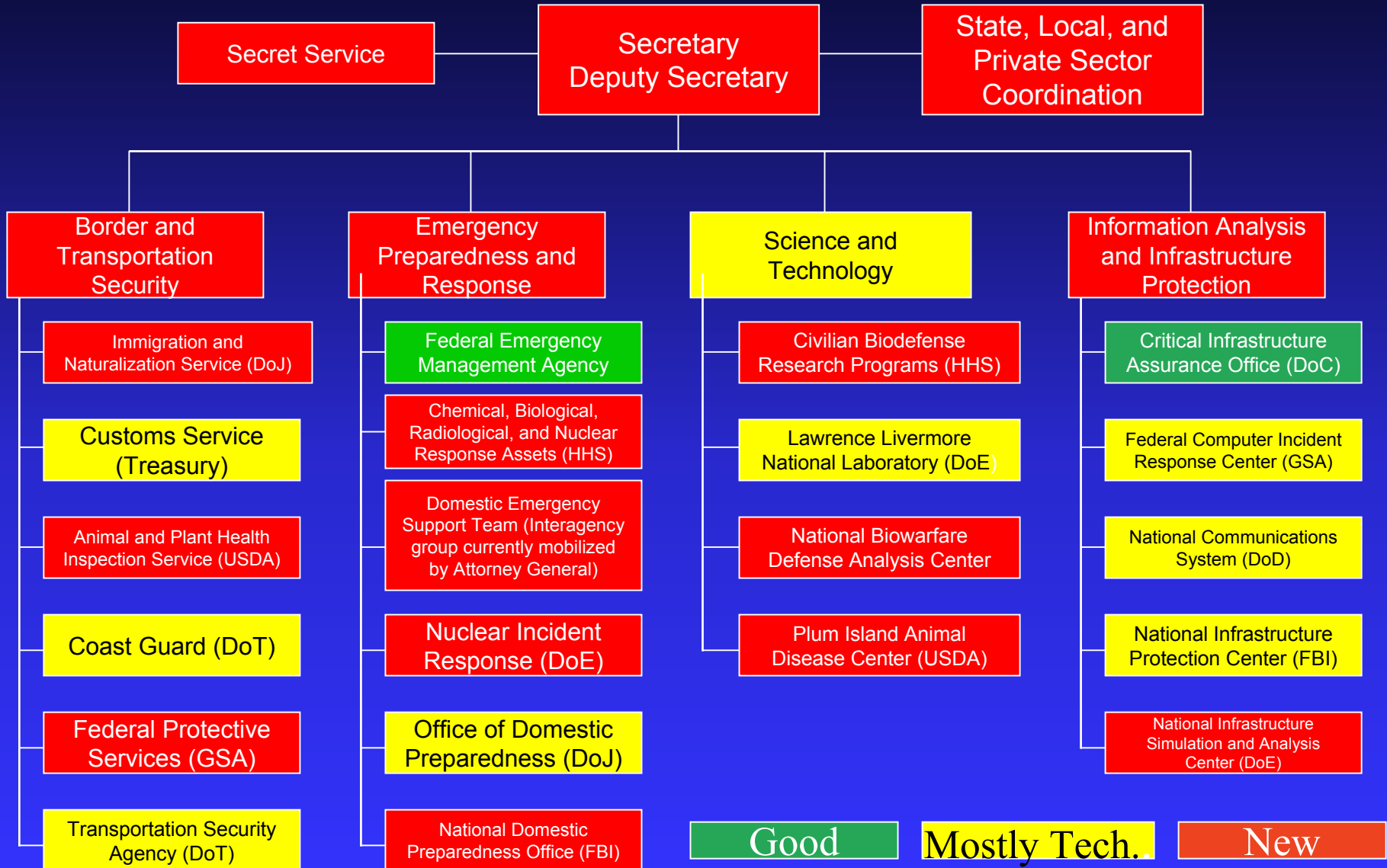
- Producing valued results, products, outcomes.
- Working with other agencies.
- Working with Industry/Other advocates.

# Department of Homeland Security



# Department of Homeland Security

## NIST Contacts



# Summary: NIST is...

- Doing alot and has more to offer for homeland security.
- A critical counterbalance to the “defense” viewpoint.
- Actively supporting homeland security agencies.
- Beginning to align OU efforts with the homeland security element of the NIST strategic plan.
- Developing a tactical plan for homeland security.

# Issues

- Deciding whether, or to what extent, NIST will conduct major focussed programs?
- How can NIST get integrated into the national homeland security effort?
- How do we prevent NIST from getting lost in the budget shuffle?